



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,372	02/12/2001	Steven P. Floeder	56271USA5A.002	1716
32692	7590	09/15/2004	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			BALI, VIKKRAM	
			ART UNIT	PAPER NUMBER
			2623	

DATE MAILED: 09/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/781,372	Applicant(s) FLOEDER ET AL.	
	Examiner Vikram Bali	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6-22, 24-49, 51 and 52 is/are rejected.
- 7) ☒ Claim(s) 3-5, 23 and 50 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Applicant's arguments, see pages 10-12, filed 6/22/2004, with respect to the rejection(s) of claim(s) 1-48 under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found art.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 2, 6-7, 11-12, 14, 18 and 49, 51-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalmia et al (US 6259109) in view of Ahn et al (US 6330350).

With respect to claim 1, Dalmia discloses a moving web inspection system (see the title) that images a sequence of images of the moving web (see figure 1), forming a list of defects and analyzing the defects in a single computer, (see figure 1, and col. 2, lines 12-25 also the camera use is the line scanner col. 2, lines 65-67, and the imaging device is spaced apart see col. 2 lines 45-67 for the calculation of the working model) as claimed. However, he fails to explicitly disclose the blob list, as claimed. Ahn in inspection process teaches a blob list, (see col. 4 last paragraph to col. 5 first paragraph). It would have been obvious to one ordinary skilled in the art at the time of invention to combine the two references as they are analogous because they are solving the problem of inspection using optics. The blob list as taught by Ahn can be incorporated in to the system of Dalmia as they Dalmia's system is also a optical system taking an image, i.e. pixel, of the object and checks for the defects, furthermore, the optical systems can be easily interchangeable for the defect detection.

With respect to claims 2, 6-7, 11-12, 14 and 18, the rejection has respectfully maintained and incorporated by reference as set forth in the prior office action (paper # 7).

With respect to claim 49, Dalmia further discloses the binarizing said digital data (see col. 4, lines 31-33 and col. 3, col. 21-25, the IPS is the computer system and does

Art Unit: 2623

works on binary system), and Ahn teaches the data structure includes the object and the object includes the pixels, (see col. 4 last paragraph and the first paragraph of col. 5, it states that the image is made up of pixels and the group of pixels "blobs" are considered for the computation purposes) as claimed.

With respect to claims 51 and 52, Ahn teaches the objects having the start data and end data and pixel segments, (see col. 4 last paragraph and the first paragraph of col. 5, it states the coordinates of the pixels and the associated data are stored in a blob) as claimed.

4. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalmia et al (US 6259109) in view of Ahn et al (US 6330350) and in further view of Schenk (US 4746020).

With respect to claims 8-10 Dalmia and Ahn discloses the invention substantially as disclosed and as described above in claim 1. However, they fail to disclose marking of the defects, marking with ink or paint, and marking near to the defect, as claimed.

Schenk, teaches a web inspection wherein the marking of the defects takes place by the ink, (see col. 1, lines 36-44) as claimed. It would have been obvious to one ordinary skilled in the art at the time of invention to combine the references as they are analogous because they are solving similar problem of web inspection. The marking of the defects will be help full in order to simply be able to see where on the web the defect occurs.

Art Unit: 2623

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dalmia et al (US 6259109) in view of Ahn et al (US 6330350) and in further view of Bishop (US 6014209).

With respect to claim 13 Dalmia and Ahn discloses the invention substantially as disclosed and as described above in claim 12. However, they fail to disclose web is a flexible circuit web, as claimed. Bishop teaches inspection of the flexible circuit web using the light and the camera system (see figure 1 and col. 1, lines 7-12) as claimed. It would have been obvious to one ordinary skilled in the art at the time of invention to combine the references as they are analogous because they are solving similar problem of web inspection. The Dalmia suggested the system to be use in any web inspection system (see col. 4, lines 28-32) and therefore the flexible circuit web as inspected by the Bishop can easily be inspected by Dalmia as suggested by Dalmia.

6. Claims 15, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalmia et al (US 6259109) in view of Ahn et al (US 6330350) and in further view of Zoeller et al (US 4752897).

With respect to claim 13 Dalmia and Ahn discloses the invention substantially as disclosed and as described above in claim 12. However, they fail to disclose multiple imaging sources are utilized, as claimed. Zoeller teaches a web inspection system that uses a multiple imaging sources (see figure 2 numerical 54 and 36 has video inputs, therefore more than one imaging source is use) as claimed. It would have been obvious to one ordinary skilled in the art at the time of invention to combine the

Art Unit: 2623

references as they are analogous because they are solving similar problem of web inspection. The imaging source of the Zoeller can be incorporated into the Dalmia's and Ahn's system as both are using same CCD camera technologies and can be replaced one with the other, thereby making the system processing the digital data at high data speed (see col. 2, lines 37-39 of Zoeller) as motivation.

With respect to claim 16 Zoeller further teaches the adaptive shareholding (see col. 4, lines 57-59) as claimed.

With respect to claim 20 all the elements of the claim is disclose by the Dalmia. And Zoeller further teaches the instances of repeating pattern and forming the blob list as the representative of the repeating pattern (see col. 4, lines 39-44, the events of interest "repeating pattern" and theses are the blobs as called by the instant application) as claimed.

With respect to claims 21 and 22, Zoeller further teaches the comparison of the blob list to the reference data (see col. 2, lines 14-20) as claimed.

Independent claims 19, 36, 42 and 48 and their dependent claims are claiming subject matter in different combinations of the claims 1-18 and 20-22, and therefore are rejected for the same reasons as set forth for the rejection of claims 1-18, and 20-22.

Art Unit: 2623

***Allowable Subject Matter***

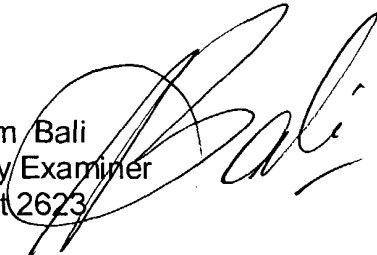
7. Claims 3-5, 23 and 50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikkram Bali whose telephone number is 703.305.4510. The examiner can normally be reached on 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703.308.6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vikkram Bali  
Primary Examiner  
Art Unit 2623



vb  
September 14, 2004